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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/581,976

DATE: 01/08/2001 TIME: 18:14:25

TECH CENTER 1600/2900

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\01082001\I581976.raw

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        Gerard, Catherine Marie Ghislaine
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12 <140> CURRENT APPLICATION NUMBER: 09/581,976
13 <141> CURRENT FILING DATE: 2000-06-20
15 <150> PRIOR APPLICATION NUMBER: PCT/EP98/08563
16 <151> PRIOR FILING DATE: 1998-12-18
18 <1.50> PRIOR APPLICATION NUMBER: GB 9727262.9
19 <151> PRIOR FILING DATE: 1997-12-24
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27 <212> TYPE: PRT
28 <213> ORGANISM: Artificial Sequence
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              20
                                    25
                                                         30
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4.1
          35
                                40
    Tyr Leu Glu Gln Asp Leu Ala Met Thr Lys Asp Gly Arg Leu Val Val
43
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44
    Ile His Asp His Phe Leu Asp Gly Leu Thr Asp Val Ala Lys Lys Phe
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                                            75
    Pro His Arg His Arg Lys Asp Gly Arg Tyr Tyr Val Ile Asp Phe Thr
46
47
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                                        90
    Leu Lys Glu Ile Gln Ser Leu Glu Met Thr Glu Asn Phe Glu Thr Met
48
49
              100
                                    105
                                                        110
50
    Ala Met His Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu
                              120
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52
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                           135
53
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54
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55
                       1.50
                                            1.55
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   Asp Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser
57
                  1.65
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                                                            175
58
    Thr Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu
59
              180
                                  1.85
                                                        190
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200

205

PATENT APPLICATION: US/09/581,976 Input Set : A:\seqlist.txt Output Set: N:\CRF3\01082001\I581976.raw 62 Gln Lys Fro Thr Ser Gly His His His His His 63 210 215 65 <210> SEQ ID NO: 2 66 <211> LENGTH: 663 67 <212> TYPE: DNA 68 <213> ORGANISM: Artificial Sequence 70 <220> FEATURE: 71 <223> OTHER INFORMATION: Chimaeric protein (protein D from Haemoplilus influenza B and E7 from Human papilloma virus type 72 73 16) 75 <400> SEQUENCE: 2 76 atggatecaa geagecatte ateaaatatg gegaatacee aaatgaaate agacaaaate 77 attattgete accettgetge tagegettat ttaccagage atacettaga atctaaagea 180 78 ettgegtttg cacaacagge tgattattta gagcaagatt tagcaatgae taaggatggt 79 egittagigg tiaticacga teacittita gaiggetiga elgalgitge gaaaaaatte 240 80 coacategte ategtaaaqa tygeegttac tatyteateg actttacett aaaagaaatt 300 81 canagittag anatgacaga anacittgan accatggcca tgcatggaga tacacctaca 82 ttgcatgaat atatgttaga tttgcaacca gagacaactg atctctactg ttatgagcaa 420 83 ttaaatgaca geteagagga gyaggatgaa atagatggte cayetggaca age'agaaceg 480 540 gacagageed attacaatat tytaacettt tyttgcaagt gtgaetetae gettegytty 85 tgcgtacaaa gcacacacgt agacattcgt actttggaag acctgttaat gggcacacta 660 86 ggaattgtgt genecatetg tteteagaaa ccaactagtg genaceatea ccateaceat 87 taa 663 89 <210> SEQ ID NO: 3 90 <211> LENGTH: 822 91 <212> TYPE: DNA 92 <213> ORGANISM: Artificial Sequence 94 <220> FEATURE: 95 <223> OTHER INFORMATION: Chimaeric protein (protein D from Haemoplilus 96 influenza B and E6 from Human papilloma virus type 97 16) 99 <400> SEQUENCE: 3 C--> 100 atggatecaa geageeatte ateaaatatg gegaataeee aaatgaaate agacaaaate attattgete accettgetge tagegettat ttaccagage atacettaga atetaaagea 120 101 cttgcgtttg cacaacaggc tgattattta gagcaagatt tagcaatgac taaggatggt 180 102 103 cgtttagtgg ttattcacga tcacttttta gatggcttga ctgatgttgc gaaaaaattc 240 104 ccacatcytc atcytaaaga tygccyttac tatytcatcy actttacctt aaaagaaatt 300 105 caaagthtag aaatgacaga aaactttgaa accatggcca tgtttcagga cccacaggag 360 106 egacceagaa agttaccaca gttatgeaca gagetgeaaa caactataca tgatataata 420 107 480 ttagaatgtg tgtactgcaa gcaacagtta ctgcgacgtg aggtatatga ctttgctttt 108 cgggatttat gcatagtata tagagatggg aatccatatg ctgtatgtga taaatgttta 540 aagttttatt ctaaaattag tgagtataga cattattgtt atagtttgta tggaacaaca 600 1.1.0 ttagaacage aatacaacaa accettetet gatteettaa ttagetetat taactetcaa 660 111 aagccactgt gtcctgaaga aaagcaaaga catctggaca aaaagcaaag attccataat 720

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gaaacccagc tgactagtgg ccaccatcac catcaccatt aa

RAW SEQUENCE LISTING

RECEIVED

DATE: 01/08/2001

780

822

TIME: 18:14:25

JAN 1 0 2001

TECH CENTER 1600/2300

1.12

113

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/581,976

DATE: 01/08/2001 TIME: 18:14:25

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\01082001\1581976.raw

RECEIVED

JAN 1 0 2001

TECH CENTER 1600/2900

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121 <220> FEATURE:
122 <223> OTHER INFORMATION: Chimaeric protein (protein D from Haemoplilus
         influenza B and E6 from Human papilloma virus type
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129
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    Glu His Thr Leu Glu Ser Lys Ala Leu Ala Phe Ala Gln Gln Ala Asp
131
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132
                                                45
    Tyr Leu Glu Gln Asp Leu Ala Met Thr Lys Asp Gly Arg Leu Val Val
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                      55
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    Ile His Asp His Phe Leu Asp Gly Leu Thr Asp Val Ala Lys Lys Phe
    65 70
                                       75
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    Pro His Arg His Arg Lys Asp Gly Arg Tyr Tyr Val Ile Asp Phe Thr
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138
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140
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    Ala Met Phe Gln Asp Pro Gln Glu Arg Pro Arg Lys Leu Pro Gln Leu
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1.42
      115
                    120
                                        1.25
    Cys Thr Glu Leu Gln Thr Thr Tle His Asp Ile Ile Leu Glu Cys Val
      130 135
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    Tyr Cys Lys Glu Glu Leu Leu Arg Arg Glu Val Tyr Asp Phe Ala Phe
145
146
             1,50
                                   1.55
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1.47
    Asp Lys Cys Leu Lys Phe Tyr Ser Lys Ile Ser Glu Tyr Arg His Tyr
180 185 190
149
150
151
    Cys Tyr Ser Leu Tyr Gly Thr Thr Leu Glu Gln Gln Tyr Asn Lys Pro
                     200
         195
   Leu Cys Asp Leu Leu Ile Arg Cys Ile Asn Cys Gln Lys Pro Leu Cys 210 215 220
153
154
155
    Pro Glu Glu Lys Gln Arg His Leu Asp Lys Lys Gln Arg Phe His Asn
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1.71.
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172
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DATE: 01/08/2001 TIME: 18:14:25 RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/581,976

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\01082001\I581976.raw

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179															aaaaq		
180	caaa	agtti	tag a	aaat	gacaç	ja a	aacti	ttgaa	a aco	catig	geca	tgti	tca	gga	ccca	agga	
181	cgae	coda	gaa a	agtta	accad	ca gr	ttat	Jeaca	a gad	gctg	caaa	caac	ctata	aca	tgata	ıt.aat	
182	ttag	jaat	gtg 1	tgtad	etgea	na go	caaca	agtta	a ct	gega	cgtg	aggt	ata	tga	cttt	jettt	t 480
183	cggg	jatti	tat 🤈	geata	agtai	ia ta	agaga	atggg	g aat	tecar	tatg	ctgt	la t.gi	tga	taaat	ig tit t	.a 540
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	200 <220> FEATURE: 201 <223> OTHER INFORMATION: Chimaeric protein (protein D from Haemoplilus																
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201		> OT	HER :	TNFO											om Ha	emop	olilus
201 202		OTI	iER :	INFOI nza I	a a no			maer ision							om Ha	emop	olilus
201 202 203	<223	OTI in: vi:	HER : Flue: rus !	INFOI nza I type	3 and 16)										Om Ha	emop	olilus
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201 202 203 205 206 207 208	<2233	> OTH in: vii > SE(Asp	HER : flue; rus : QUENC Pro	INFOI nza I type CE: 6 Ser Ile	3 and 16) 5 Ser 5	d E61	E7 fi	ısion Ser	Asn Arg	om Hi Het 10	uman Ala	papi Asn	llo	na Gln Tyr	Met	Lys	olilus
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201 202 203 205 206 207 208 209 210 21.i 212 21.3	<2233 <4000 Met 1 Ser Glu	OTN in: vii > SEC Asp Asp His	HER I	INFOUNTAIN	3 and 16) 5 Ser 5 Ile Glu Asp	His Ile Ser Leu	Ser Ala Lys Ala 55	Ser His Ala 40 Met	Asn Arg 25 Leu Thr	Met 10 Gly Ala	Ala Ala Phe Asp	Asn Ser Ala Gly 60	Thr Gly Gln 45 Arg	GIn Tyr 30 Gin Leu	Met 15 Leu Ala Val	Lys Pro Asp Val	olilus
201 202 203 205 206 207 208 209 210 21.i 212 21.3 21.4	<2233 <4003 Met 1 Ser Glu Tyr	OTN in: vii > SEC Asp Asp His	HER I	INFOUNTAIN	3 and 16) 5 Ser 5 Ile Glu Asp	His Ile Ser Leu	Ser Ala Lys Ala 55	Ser His Ala 40 Met	Asn Arg 25 Leu Thr	Met 10 Gly Ala	Ala Ala Phe Asp	Asn Ser Ala Gly 60	Thr Gly Gln 45 Arg	GIn Tyr 30 Gin Leu	Met 15 Leu Ala	Lys Pro Asp Val	olilus
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201 202 203 205 206 207 208 209 210 21.1 212 2.13 214 215 216 217	<2233 <4000 Met 1 Ser Glu Tyr Ile 65 Pro	> OTH in: vin > SE(Asp Asp His Leu 50 His	HER : Eluer rus : QUENC Pro Lys Thr 35 Glu Asp	INFOUNTAIN	3 and 16) Ser 5 Ile Glu Asp Phe Arg 85	His Ile Ser Leu Leu 70 Lys	Ser Ala Lys Ala 55 Asp	Ser His Ala 40 Met Gly	Asn Arg 25 Leu Th.r Leu Arg	Met 10 Gly Ala Lys Thr	Ala Ala Phe Asp Asp 75 Tyr	Asn Ser Ala Gly 60 Val	Thr Gly Gln 45 Arg Ala	GIn Tyr 30 Gin Leu Lys	Met. 15 Leu Ala Val Lys Phe 95	Lys Pro Asp Val Phe 80 Thr	olilus
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201 202 203 205 206 207 208 210 21.1 212 21.3 21.4 21.5 21.6 21.7 21.8 21.9 220	<2230 <4000 Met 1 Ser Glu Tyr Ile 65 Pro Leu	> OTH in: viii > SEQ Asp Asp His Leu 50 His	HER . fluerus f QUENO Pro Lys Thr 35 Glu Asp Arg Glu Phe	INFOUNTAIN	3 and 16) Ser 5 Ile Glu Asp Phe Arg 85 Gln	His Ile Ser Leu Leu 70 Lys Ser	Ser Ala Lys Ala 55 Asp Asp	Ser His Ala 40 Met Gly Gly Glu Glu	Asn Arg 25 Leu Thr Leu Arg Met 105	Met 10 Gly Ala Lys Thr Tyr 90 Thr	Ala Ala Phe Asp Asp 75 Tyr Glu	Asn Ser Ala Gly 60 Val Val	Thr Gly Gln 45 Arg Ala Tle Phe	Tyr 30 Gln Leu Lys Asp	Met. 15 Leu Ala Val Lys Phe 95	Lys Pro Asp Val Phe 80 Thr	olilus
201 202 203 205 206 207 208 209 210 21.1 212 21.3 21.4 21.5 21.6 21.7 21.8 21.9 22.0 22.1	<4000 Met 1 Ser Glu Tyr Ile 65 Pro Leu Ala	> OTH in: vi. vi. seq. Asp Asp His Leu 50 His Lys Met	Fluerrus (TNFOID TABLE TO THE TABLE TO TH	3 and 16) 5 Ser 5 Ile Glu Asp Phe Arg 85 Gln Asp	His Jle Ser Leu 70 Lys Ser Pro	Ser Ala Lys Ala 55 Asp Asp Leu Gln	Ser His Ala 40 Met Gly Gly Glu Glu 120	Asn Arg 25 Leu Thr Leu Arg Met 105 Arg	Met 10 Gly Ala Lys Thr Tyr 90 Thr	Ala Ala Phe Asp Asp Tyr Glu Arg	Asn Ser Ala Gly 60 Val Val Asn	Thr Gly Gln 45 Arg Ala Ile Phe Leu 125	Gln Tyrr 30 Gln Leu Lys Asp Glu 110 Pro	Met 15 Leu Ala Val Lys Phe 95 Thr	Lys Pro Asp Val Phe 80 Thr Met Leu	olilus
201 202 203 205 206 207 208 209 210 21.i 212 213 214 215 216 217 218 219 220 221 222	<4000 Met 1 Ser Glu Tyr Ile 65 Pro Leu Ala	> OTH in: vi.	Fluerrus (TNFOID TABLE TO THE TABLE TO TH	3 and 16) 5 Ser 5 Ile Glu Asp Phe Arg 85 Gln Asp	His Jle Ser Leu 70 Lys Ser Pro	Ser Ala Lys Ala 55 Asp Asp Leu Gln Thr	Ser His Ala 40 Met Gly Gly Glu Glu 120	Asn Arg 25 Leu Thr Leu Arg Met 105 Arg	Met 10 Gly Ala Lys Thr Tyr 90 Thr	Ala Ala Phe Asp Asp Tyr Glu Arg	papi Asn Ser Ala Gly 60 Val Val Asn Lys	Thr Gly Gln 45 Arg Ala Ile Phe Leu 125 Leu	Gln Tyrr 30 Gln Leu Lys Asp Glu 110 Pro	Met 15 Leu Ala Val Lys Phe 95 Thr	Lys Pro Asp Val Phe 80 Thr Met Leu	olilus
201 202 203 205 206 207 210 211 212 213 214 215 216 217 218 219 220 221 222 223	<4000 Met l Ser Glu Tyr Ile 65 Pro Leu Ala Cys	> OTH in: vi.i vi.i vi.i vi.i vi.i vi.i vi.i vi.	Fluer Cus of Gluer Asp Glu Phe 115 Glu	TNFOID TABLE TO THE TABLE TABLE TO THE TABLE TABLE TABLE TO THE TABLE TABL	3 and 16) 5 Ser 5 Ile Glu Asp Phe Arg 85 Gln Asp	His ser Leu Leu 70 Lys Ser Pro	Ser Ala Lys Ala 55 Asp Leu Gla Thr 135	Ser His Ala 40 Met Gly Glu Glu 120 Ile	Asn Arg 25 Leu Thr Leu Arg Met 105 Arg	Met 10 Gly Ala Lys Thr Tyr 90 Thr Pro	Ala Ala Phe Asp 75 Tyr Glu Arg	papi Asn Ser Ala Gly 60 Val Val Lys Ile 140	Thr Gly Gln 45 Arg Ala Tle Phe Leu 125 Leu	Tyr 30 Gin Leu Lys Asp Glu 110 Pro Glu	Met 15 Leu Ala Val Lys Phe 95 Thr Gln	Lys Pro Asp Val. Phe 80 Thr Met Leu Val.	olilus
201 202 203 205 206 207 208 209 210 212 213 214 215 216 217 218 219 220 221 222 223 224	<2233 <4000 Net 1 Ser Glu Tyr Ile 65 Pro Leu Ala Cys	> OTH in: vi.i vi.i vi.i vi.i vi.i vi.i vi.i vi.	Fluer Cus of Gluer Asp Glu Phe 115 Glu	TNFOID TABLE TO THE TABLE TABLE TO THE TABLE TABLE TABLE TO THE TABLE TABL	3 and 16) 5 Ser 5 Ile Glu Asp Phe Arg 85 Gln Asp	His Ser Leu 70 Lys Ser Pro Thr Leu	Ser Ala Lys Ala 55 Asp Leu Gla Thr 135	Ser His Ala 40 Met Gly Glu Glu 120 Ile	Asn Arg 25 Leu Thr Leu Arg Met 105 Arg	Met 10 Gly Ala Lys Thr Tyr 90 Thr Pro	Ala Ala Ala Phe Asp 75 Tyr Glu Arg Ile Val	papi Asn Ser Ala Gly 60 Val Val Lys Ile 140	Thr Gly Gln 45 Arg Ala Tle Phe Leu 125 Leu	Tyr 30 Gin Leu Lys Asp Glu 110 Pro Glu	Met 15 Leu Ala Val Lys Phe 95 Thr	Lys Pro Asp Val. Phe 80 Thr Met Leu Val.	olilus
201 202 203 205 206 207 210 211 212 213 214 215 216 217 218 219 220 221 222 223	<4000 Met l Ser Glu Tyr Ile 65 Pro Leu Ala Cys	> OTH in: vi.i vi.i vi.i vi.i vi.i vi.i vi.i vi.	Fluer Cus of Gluer Asp Glu Phe 115 Glu	TNFOID TABLE TO THE TABLE TABLE TO THE TABLE TABLE TABLE TO THE TABLE TABL	3 and 16) 5 Ser 5 Ile Glu Asp Phe Arg 85 Gln Asp	His ser Leu Leu 70 Lys Ser Pro	Ser Ala Lys Ala 55 Asp Leu Gla Thr 135	Ser His Ala 40 Met Gly Glu Glu 120 Ile	Asn Arg 25 Leu Thr Leu Arg Met 105 Arg	Met 10 Gly Ala Lys Thr Tyr 90 Thr Pro	Ala Ala Phe Asp 75 Tyr Glu Arg	papi Asn Ser Ala Gly 60 Val Val Lys Ile 140	Thr Gly Gln 45 Arg Ala Tle Phe Leu 125 Leu	Tyr 30 Gin Leu Lys Asp Glu 110 Pro Glu	Met 15 Leu Ala Val Lys Phe 95 Thr Gln	Lys Pro Asp Val. Phe 80 Thr Met Leu Val.	olilus

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RAW SEQUENCE LISTING PATENT APPLICATION: US/09/581,976

DATE: 01/08/2001 TIME: 18:14:25

Input Set : A:\seqlist.txt
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229	nop	115	0,0	180	11,5	1 110.	. ,		185	1.10	J. 1.	Ozu	- J -	190	1123	. 1 -	
230	Cys	Tyr	ser	Leu	туг	\mathtt{Gl}_Y	Thr	${\rm Th} x$	Leu	Glu	Gln	Gln	Tyr	Asn	Lys	Pro	
231			1.95					200			_		205				
232 233	Leu	Cys 21.0	Asp	Leu	Leu	Lle		Cys	Tle	Asn	Cys		Lys	Pro	Leu	Cys	
233	Pro		Glo	Lys	Gln	Arm	215 His	E.eau	ASD	five	Lvs	220 Gln	Ara	Phe	His	Asn	
235	225	01.0	014	137 13	0111	230	112.0	n.c.a		2,2	235	0111			14.1.0	240	
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237					245					250					255		
238	Arg	Thr	Arg	Arg	Glu	Thr	Gln	Leu		His	Gly	Asp	Thr		Thr	Leu	
239 240	Hi a	Clu	m	260	Ecus	\ or	Lou	Clo	265	Chr	mbs	mb ~	7.00	270	Mar va	Cvc	
240	птэ	Gru	275	Met	neu	nsp	neu	280	PIO	GLU	1111	1111	285	nea	TYL	C) 5	
242	Tyr	Glu		Leu	Asn	Asp	Ser		Glu	Glu	Glu	Asp		Ile	Asp	Gly	
243	•	290				•	295					300				•	
244		Ala	Gly	Gln	Ala		Pro	Asp	Arg	Ala		Tyr	Asn	Ile	Va.l		
245	305	_	_	_	_	310	_		_		3.15	_				320	
246 247	Phe	Cys	Cys	Lys	325	Asp	ser	'l'n.r	Leu	_	Leu	Cys	Val	GLn	Ser	Thr	
247	His	Va 1	Asn	Ile		Thr	Leu	Glu	Asn	330 Leu	Leu	Met-	Glv	Thr		Glv	
249	111.5	V CI .1.	изр	340	11.1 5	1111	ьси	G 1. U	345	ыси	LIC (I	110.6	CILY	350	DC. U	U.1 Y	
250	Пlе	Val	Cys	Pro	Ile	Cys	Ser	Gln		Pro	Thr	ser	Gly		His	His	
251			355					360					365				
252	Hi.s	His	H i.s														
253	.010	370			_												
	<21.05 <21.15																
	<21.25				,		•										
	<21.33				Art.i.f	icia	al Se	equei	ıce								
	<220							•									
261	<223>	· OTI	IER I	INFOF	RMATI	ON:	Chin	naeri	іс рі	rotei	in (g	prote	ein I	fro	om Ha	emoplilu	ıs
262																	
263	~100×			уре													
266	<400>		-			·		t atr		raatis	2000	2221		ito :	1020:	aaatc	60
267																aaacc	120
268					, ,		, ,,	•		-				_		gatggt	1.80
269	•		_											-		aatto	240
270		-		-	-		, ,								-	gaaatt	300
271								_						-		cctaca	360
272	-						**				-					agcaa	420
273 274								-								gaaccg eggttg	480 540
275									-	-		-				icacta	600
276						-		_					-			caccat	660
277	taa	,				-		-									663

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/581,976

DATE: 01/08/2001 TIME: 18:14:26

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\01082001\I581976.raw

L:100 M:112 C: (48) String data converted to lower case, M:112 Repeated in SeqNo=3